

OPERATION WILDFIRE:

Anatomy of a LRN Readiness Drill Utilizing Surrogate Organism

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Instructions to LRN Reference Labs:

- ✓ Identify all Sentinel Labs within their jurisdiction
- ✓ Compile communications database
- ✓ Supply them with procedures and protocols
- ✓ Inventory their current capabilities and training needs
- ✓ Train them to recognize agents
- ✓ Develop & maintain their capability
- ✓ Complete & implement a jurisdiction wide integrated response plan

AND THEN....

Critical Capacity #9

Required Recipient Activity

- “Conduct at least one simulation exercise per year, involving at least one threat agent in Category A that specifically tests laboratory readiness and capability to perform from specimen threat assessment, intake prioritization, testing, confirmation, and results reporting using the LRN website.”

YIKES !

WHY DRILL??

- “We all ready have a comprehensive written response plan. Do we really need to drill”?

Interpretation: “We anticipated every possible scenario in our plan & furthermore the disaster “du jour” read our plan and will cooperate accordingly when it strikes.”

WHY DRILL??

- To evaluate many parameters of integrated lab response including testing accuracy, communications and turnaround times.
- To help identify strengths and weaknesses within your emergency response plan.
- To assist in tailoring competency panels to best address identified testing accuracy weaknesses.
- To gather feedback, evaluate the usefulness of the exercise, and use this information to further strengthen response capacity & planning.

Issues:

- How many labs do we need to test?
- Where do we begin?
- Can't send actual agent so what are we supposed to use?
- Does anybody have a recipe for pulling this together? HELP!

Getting started...

1. Which Category A agent ?
2. What will you use for a surrogate?
3. Will you send mock clinical specimens or isolates?
4. Which Sentinel Labs to drill?
 - ✓ Statewide? County? Region? Hospital? Private? Random sample?
5. Will your own lab be drilled also?
 - ✓ Molecular? Conventional? Both? Everybody?
6. Will drill participation be limited to “lab only”?
7. Will drill be announced or unannounced?

Getting started...

8. Will all sentinel labs receive specimens/isolates same day or will distribution be staggered?
9. Will you enter drill data into your LIS and issue reports?
10. Will drill be conducted in “real time”?
11. What will you set for measurable performance goals?
12. How will you assess and provide feedback?
13. Will you share the data and if so with whom?
14. How will you use the assessment data?

OPERATION WILDFIRE



(TINY) Rhode Island

- 1 State Health Department
- 0 County or Local Health Departments
- 1 State Health Department Laboratory
- 15 Sentinel Laboratories
 - 12 Hospital based
 - 2 Federal (VAMC & Newport Naval Base)
 - 1 Commercial/Private

RI Laboratory Response Network

- Meets quarterly at the State Health Lab
- Sentinel Lab microbiology supervisors
- Sentinel Lab Directors
- Hospital Infection Control Practitioners
- State Disease Prevention & Control (Epi)
- Health Dept. HRSA program

RI LRN Services Goal:

- To establish a statewide network of trained laboratorians, competent in their respective roles and responsibilities and ready to participate in a robust, rapid and effective response to a bioterrorism event or other infectious disease outbreak.

Planning for WILDFIRE

1. Which agent? *Y.pestis*
2. What surrogate?: *Y. ruckeri* ATCC 29473
3. Specimens or isolates: clinical specimens – mock bronchial washings
4. Which Sentinels: All 15
5. Include state lab?: Yes – molecular & conventional, all trained personnel
6. Lab only?: No. Include other Focus Areas, inform Hospital Preparedness Planning Committee etc.
7. Announced? Yes

Planning for WILDFIRE

- Same day or staggered? **Same day**
- Use LIS & issue reports? **Yes**
- Conduct in “real time”? **Partially**
- Performance expectations?
- Assessment, feedback and sharing?
- How to use the data?

Performance Expectations

Sentinel Labs:

- Will follow drill instructions
- Will accurately “rule out or refer” per LRN protocol
- Will expedite referral & shipping of isolates to the state lab
- Will follow notification guidance in an accurate & timely manner
- Will respond in a timely manner to an assortment of communications

Performance Expectations

State Bioterrorism Response Lab:

- Proficiency at identification:
 - Preliminary: Molecular (Smart Cycler)
 - Confirmatory: Conventional methods
- Expedient turnaround time
 - Isolate receipt, testing, reporting
- Timely and accurate communications
 - With Sentinel Labs, Disease Control (via fax, phone, and email), between Molecular & Conventional Teams

Drill Assessment

- Pick key response pieces to assess
- Documentation is critical (phone logs, line lists, time and date stamps etc.)
- Base expectations on established plans & protocols (ex: infectious disease reporting regulations in your state)
- You can sometimes use one drill “piece” to assess more than one thing (ex: fax that requires response - information be faxed or emailed back)

Drill Feedback

- Must be accurate & timely
- Should be straightforward
- Recommend “customized” assessment for each participating lab
- Recommend compiling aggregate data (without participant identifiers) so labs can see how they did in relation to other participants.
- Is a two-way street
- Shouldn't be overly critical as this is a learning tool - encourages participation

Drill Feedback

- Consider using an “expectation rubric” so participants know how they performed in relation to what was expected.
ex: timeframe for a sentinel lab to first notify reference lab

Your laboratory first contacted State lab: 9-20-04

Expectation:	9-20-04	Great
	9-21-04	Good
	9-22-04	Fair

Sharing Assessment Data

- Use to other focus areas and to overall response planning efforts
- Use to outside partners responsible for planning (ex: hospital emergency planners)
- Aggregate data vs. “identified” participant data.

Using Assessment Data

- Points out weaknesses and gaps in capacity (some of which you would never anticipate!)
- Helps focus “remedial” or further training.
- Shows where plans need shoring up
- Use to guide competency panel make-up
- Helps in future drill planning

WILDFIRE Example

- Inability to perform urease test
 - Many labs no longer stock urea slants
 - Rely too heavily on automated or strip ID methods
 - Stock rapid urea broth
 - Inaccurate results
 - Labs using too little inoculum on slants

Remedial Action Examples

- Review proper set up of urease test
- Encourage sentinel labs to purchase urea slants (inexpensive/long shelf life)
- Offer to supply sentinel labs with urea slants
- Design follow up competency panel that includes urease test

WILDFIRE burning...

- 150 “bronchial washings”
- 10 for each Sentinel Lab
 - 8 contained *Yersinia sp.*
 - 6 of 8 contained the *Y.pestis* surrogate
(2 of the 6 also contained *S.pneumoniae*)
 - 2 of the 8 contained *Yersinia rohdei* (urease +)
 - 1 contained *Morganella morganii* (indole +)
 - 1 sterile (reality vs. torture!)

Let the games begin !

Sentinel Labs could pick up their drill packages beginning at 9:00 am on a Monday.

Contents:

- ***Complete*** drill instructions
- 10 mock bronchial washings
- “patient” history for each specimen
- TSA slants & labels for isolate return

WILDFIRE burning.....

- Communications started within hours of specimen pick-up as sentinel labs phoned State Lab & Disease Control
- Some hospitals used the drill to also test internal plans (HEICS alert)
- As isolates arrived at State lab, identical slants of actual agent were substituted in for some surrogates to drill State Lab accuracy at actual identification.

Communications

- Drill scenario updates were issued via an email list serve several times a day throughout the drill. The scenario began in real time as Sentinel labs began calling in to the State Lab with suspicious findings.
- Scenario was designed to provide a realistic backdrop to the exercise and to suggest what the magnitude might actually resemble in order to stimulate further discussion & surge planning.

Communications

- All drill related communications were logged as to time and content of message
- Tested email and fax databases by sending out specific messaging which in many cases required a reply back to the state lab.

Examples:

- Identify key LRN tests for this organism
- What is the after-hours number for the state lab?

WILDFIRE Assessment

- Measured 15 different drill pieces based on expectations
- Emailed “key” to all participants on the day after the drill
- Distribution of customized assessment and aggregate data as well as review and discussion at RI LRN meeting

Conclusions

- Drills such as WILDFIRE can be scaled down, ramped up or customized to meet jurisdictional needs.
- Pre-planning and setting clear expectations are essential drill elements.
- Drills will result in “lessons learned”
- Drills are key to identifying weaknesses
- Drill assessment data can be used to address weaknesses and turn them into strengths

Further information

Drill documents, templates & helpful hints
available for sharing:

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